

REMARKS/ARGUMENTS

Claims 1, 2, 4-7 and 9-13 remain in this application for examination.

Examiner's Response to Arguments:

Applicant acknowledges with thanks the withdrawal of the rejection of claims 4, 5, 9 and 10 under 35 USC §112, second paragraph.

Applicant acknowledges with thanks the withdrawal of the rejection of Applicants' claims by Lynn '082 and acknowledges the new grounds of rejection, which Applicants will respond to in this reply.

Claim Rejections Under 35 USC §112:

Applicants have reviewed the rejections under 35 USC §112, first paragraph and has agreed to delete most of those portions of the claims, which the Examiner finds unsupported. However, Applicant respectfully submits that the deleted language if not supported is certainly implicit in the application as filed. Applicants have retained the term "laser light beam" in claim 6, line 5, this term having been acceptable in claim 1, and being inherent in the specification as filed because the invention is directed to treating the eye with a laser source.

It is noted that Applicants' claims 6, 7, 9 and 10 have not been rejected over the prior art but have only been rejected under 35 USC §112, first paragraph. With respect to these claims the limitation of "light which passes through the cornea and the crystalline lens of the eye" has been deleted and the term "only" has been deleted in each of these claims, it is respectfully submitted that these claims are now in condition for allowance and allowance is hereby respectfully requested since there is no prior art rejection of these claims in the Office Action, Applicants are assuming that claims 6, 7, 9 and 10 are allowable.

Claim Rejections Under 35 USC §102:

Claims 1-2 and 11 are rejected under 35 USC §102(e) as being anticipated by US Patent Application 2002/0198517 to Alfano et al. (Alfano et al. '517). Applicant respectfully traverses this rejection.

In order for a rejection to be sustainable under 35 USC §102(e) the reference must teach every limitation of the rejected invention. It is respectfully submitted that Alfano does not teach the following limitations, which are now part of claim 1:

. . . the therapeutic light source being an optical unit having an optical observation axis enabling a practitioner to observe an eye to be treated, and light deflecting means for propagating the non-thermal therapeutic light beam emitted by the therapeutic laser light source from the same optical axis as the optical observation axis of the optical unit . . .

Clearly, Applicants are reciting in claim 1 an apparatus for treating an eye disorder known as "age-related maculopathy degeneration." While this limitation occurs in the preamble of claim 1, the body of claim 1 recites structure, which clearly does not occur in Alfano et al. '517. There is no optical unit in Alfano et al. '571 which is used to observe an eye to be treated wherein a light deflecting means propagates a non-thermal therapeutic light beam emitted by a therapeutic laser light source. The light source is emitted "on the same optical axis as the optical observation axis and the optical unit." Throughout Applicants' specification, Applicants refer to "age-related maculopathy degeneration." The title of the invention is "APPARATUS FOR TREATING AGE-RELATED MACULOPATHY DEGENERATION." Just beneath the title, Applicant states that "the present invention relates to an apparatus used in ophthalmology for treating age-related maculopathy degeneration (ARM). Fig. 1 of the drawing shows a practitioner such as an ophthalmologist utilizing "an optical unit one enabling a practitioner to observe the eye being treated. The eye is treated by a "treatment unit 2" serving to generate a light beam 3 which is directed vertically on leaving the treating unit 2 onto a mirror unit 4 for deflecting the light beam 3 through 90° so that it propagates horizontally on "the same optical axis as the optical observation axis of the optical unit 2." It is

therefore absolutely and clearly presented that Applicants are claiming herein an apparatus for treating an eye.

Alfano et al. '517 is directed to a completely different type of treatment, i.e., apparatus used for laser tissue welding, such as "skin, mucus, bone, blood vessel, nerve, brain, liver, pancreas, spleen, kidney, lung, bronchus, respiratory tract, urinary tract, gastrointestinal tract, or gynecological tract and as a sealing for pulmonary air leaks and fistulas such as intestinal, rectal and urinary fistulas." There is no mention in Alfano et al. '517 of treating the eye. Rather in Alfano et al. '517 the invention is directed to sealing and welding tissue by heating the tissue. There is no teaching what so ever in Alfano et al. '517 of generating "intracellular singlet oxygen directly by a laser in sufficient quantity to occlude or cut off normal retinal vessels." The laser light beam has an emission wavelength lying in the range of 1.26 μ m to 1.27 μ m which is a thousand times larger than the wavelength of over a 1,000 nm recited in Alfano et al. '517 (1,150 to 1,160nm)- μ m being 10^{-6} and nm being 10^{-9} . While in paragraph [0041] of Alfano et al. '517 there is mention of wavelength at a range of 1.2 - 1.6 μ m but the claimed specific wavelength used to generate intracellular singlet oxygen, which is 1.26 μ m to 1.27 μ m with a power range of 1mw to 1w, is not specified in Alfano et al. '517. Accordingly, there is no recitation in Alfano et al. '517, which would teach one skilled in the art to generate intracellular singlet oxygen to occlude at normal retinal vessels. Clearly, in Alfano et al. '517 there is no optical observation axis that coincides with the horizontal component of the axis 3 from laser 2, which allows the ophthalmologist to observe and treat along the same axis.

Since every limitation of Applicants' invention claimed in claim 1 does not occur in Alfano et al. '517, it is respectfully requested that this rejection based on 35USC§102 be withdrawn.

Since claims 2 and 11 have a similar scope in that they include the subject matter of claim 1, claims 2 and 11 are not anticipated by Alfano et al. '517 for the same reasons that claim 1 is not anticipated. Both claims 2 and 11 decrease the power range from 1mw - 1w to 10mw - 1w. Accordingly, claims 2 and 11 are not anticipated for the same reason as claim 1.

Rejections Under 35 USC§103:

Claims 4, 5, 12 and 13 have been rejected under 35 USC§103(a) as being unpatentable over Alfano et al. '517 in view of Rice et al. '309. Applicant respectfully traverses this rejection.

It is respectfully submitted that Rice et al. '309 does not cure the deficiencies of Alfano et al. '517. While Rice et al. does teach using an optical fiber Raman laser for photo dynamic therapy, Rice et al. teaches away from Applicant's claimed invention in that Rice et al. is directed to photodynamic therapy for eliminating tumors, particularly by using photosensitive drugs which are absorbed by cells. The drug absorbed by cells sensitizes the cells to laser light which excites the dyes and thermally destroys the cells. Applicants' claimed invention is directed to non-thermal treatment wherein intracellular singular oxygen occludes abnormal retinal blood vessels. As is set forth in the background of Applicants' invention on page 6, lines 13-35, Applicants arrangement is capable of deleting utilization of a drug absorbed by eye tissue and obtains advantages thereby and generates intracellular singlet oxygen directly to occlude abnormal retinal vessels. This is accomplished by Applicants using a specific emitter which is identified in the claims as "an emitter that emits a therapeutic laser light beam presenting an admission wave light length lying in the range of 1.26 μm to 1.27 μm " with the laser light source also having a power in the range of 1mw to 1w. It is respectfully submitted that this is a specific emitter having a specific structure that results in the claimed range and power.

The 1.26 μm and 1.27 μm wavelength range of Applicants' claims 4, 5, 12 and 13 is not disclosed anywhere in Rice et al. '309. The Examiner says that the mini-infrared region at column 12, lines 15-18 of Rice discloses a variety of emission wavelengths, including the many-infrared region. However there is absolutely no disclosure in column 12, lines 15-18 of the claimed 1.26 μm to 1.27 μm range taught or suggested in Rice et al. Therefore, whatever is disclosed in Rice et al, '309 regarding pump laser diodes (see Figs. 7 and 8 of Rice et al.), ytterbium-doped optical fiber lasers and Raman converters do not cure the deficiencies of Alfano et al. '517, as a primary reference

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against Applicants independent claims 1 and 11. Accordingly, the rejection of claims 4, 5, 12 and 13 as obvious under 35 USC §103(a) should be withdrawn.

In that this is a full and complete response to the Office Action of August 24, 2009, it is respectfully requested that this application be allowed and passed to issue. If the Examiner for any reason feels that a personal conference might expedite prosecution of this application, the Examiner is respected requested to telephone the undersigned.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,

/John R. Moses/

John R. Moses, Reg. No. 24,983
Attorney for Applicants
Millen, White, Zelano & Branigan
Arlington Courthouse Plaza
2200 Clarendon Blvd.
Suite 1400
Arlington, VA 22201
(703) 812-5309

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